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WHAT IS CLAIMED IS:

1. A method to temperature compensate data of a fluid while in use that comprises:

a) collecting data when fluid temperature changes from a first threshold temperature to at least a second threshold temperature at least at a threshold rate;

b) determining the temperature dependence of the collected data; and,

c) using the determined data-temperature-dependence for temperature compensating data of the fluid's condition.

2. The method of claim 1 wherein the data are collected for one or more of is selected from the group consisting of fluid temperature is increasing from a first increasing-threshold-temperature to at least a second increasing-threshold-temperature at least at an increasing-threshold-rate where the second increasing-threshold-temperature is greater than the first increasing-threshold-temperature, and fluid temperature is decreasing from a first decreasing-threshold-temperature to at least a second decreasing-threshold-temperature at least at a decreasing-threshold-rate where the second decreasing-threshold-temperature is less than the first decreasing-threshold-temperature or combinations thereof.

3. The method of claim 2 wherein the temperature range covered by the increasing-temperature-thresholds and the temperature range covered by decreasing-temperature-thresholds are selected from the group consisting of same, different or combination thereof.

4. The method of claim 2 wherein the increasing-threshold-rate and the decreasing-threshold-rate are selected from the group consisting of: same, and different or combinations thereof.

5. The method of claim 1 wherein the method further comprises determining at least one of the following selected from the group

consisting of: threshold temperature, threshold rate or combinations thereof.

6.   The method of claim 1 wherein the data collection, temperature dependence determination and use of the determined data-temperature-dependence is for at least on data series.

7.   The method of claim 1 wherein the data collection, temperature dependence determination and use of the determined data-temperature-dependence occurs for one of the following selected from the group consisting of: each time the temperature change criteria are met, at most once per each operating cycle of the device or process using the fluid or combinations thereof.

8.   The method of claim 1 further comprises outputting information when a data-temperature-dependence is determined.

9.   The method of claim 8 wherein the output information is selected from the group comprising: that the determined data-temperature-dependence has changed the data-temperature-dependence used to compensate data temperature dependence; that the determined data-temperature-dependence does not meet criteria to change the current data-temperature-dependence; properties of the determined data-temperature-dependence and combinations thereof.

10.   The method of claim 9 wherein properties of the determined data-temperature-dependence are selected from the group comprising: slope, intercept, R^2 fit to the data, and combinations thereof.

11.   The method of claim 1 wherein the determined data-temperature-dependence is used for data temperature compensation selected from the group comprising: replacing the current data-temperature dependence, replacing the current data-temperature with a function of the determined and the current data-temperature-dependence, not replacing the current data-temperature-dependence because of a property of the determined data-temperature-dependence not being within at least one limit, and combinations thereof.

12.   The method of claim 11 wherein a property of the determined data-temperature-dependence not being within at least one limit is

selected from the group comprising: the determined data-temperature-dependence alone; a function of the determine data-temperature-dependence and the current data-temperature-dependence and combinations thereof.

13.   The method of claim 1 further comprises determining if a data-temperature-dependence is externally inputted, and reading and using such externally inputted data-temperature-dependence for data temperature compensation.

14.   The method of claim 13 wherein the externally inputted data-temperature-dependence is used for data temperature compensation selected from the group comprising: replacing the current data-temperature-dependence, replacing the current data-temperature-dependence with a function of the externally inputted and the current data-temperature-dependence, not replacing the current data-temperature-dependence because of a property of the externally inputted data-temperature-dependence not being within at least one limit, and combinations thereof.

15.   The method of claim 14 wherein a property of the externally inputted data-temperature-dependence not being within at least one limit is based on at least one of the following: the externally inputted data-temperature-dependence alone, a function of the externally inputted data-temperature-dependence and the current data-temperature-dependence, and combinations thereof.

16.   The method of claim 14 further comprising receiving an input of the portion of fluid with the externally inputted data-temperature-dependence and using that input when replacing the current data-temperature-dependence with a function of the externally inputted and the current dependence.

17.   A method to temperature compensate data of a fluid while in use that comprises:

a)   collecting data when fluid temperature changes from a first threshold temperature to at least a second threshold temperature at least at a threshold rate;

b)   determining the temperature dependence of the collected data;

c)   determining if a data-temperature-dependence is externally inputted and reading the inputted dependence, and,

5   d)   using the determined data-temperature-dependence and the externally inputted data-temperature-dependence for temperature compensating data of the fluid's condition.

18.   The method of claim 17 wherein data is collected and temperature dependence determined only when an external data-
10   temperature-dependence is not read.